

Remarks

Entry of the above-noted amendments, reconsideration of the application, and allowance of all claims pending are respectfully requested. By this amendment, claims 1-5, 9-11, 13, and 15-20 are amended, claims 21-26 are added, and claims 8 and 12 are canceled. These amendments to the claims constitute a bona fide attempt by applicants to advance prosecution of the application and obtain allowance of certain claims, and are in no way meant to acquiesce to the substance of the rejections. Support for the amendments can be found throughout the specification (e.g., page 4, lines 3-13, page 5, lines 11-21, page 6, lines 6-12, and page 7, lines 2-21), drawings (e.g., FIGS. 1 and 4-5), and claims and thus, no new matter has been added. Claims 1-7, 9-11, and 13-26 are pending.

Interview on February 18, 2004:

The amendments herein follow a telephone conference between the Examiner and Robert J. Brill, applicants' attorney, Joseph S. Hanasz, applicants' agent, and Nick Grabowski, member of technical staff of applicants' attorney, on February 18, 2004 in which features of the applied reference and the claims, specification, and drawings were discussed. During the telephone conference, positive discussion was had and agreement was reached that:

- a. Examples of allowed "article" claims appear in U.S. Patent Nos. 6,345,382, 6,460,160, and 6,557,135.
- b. In any subsequent office action, there will be no §112 rejection to the format of the "article" claim 20 alone, rather the claim will be reviewed only for its ability to distinguish the prior art.
- c. the addition to independent claim 1 of the limitation "comparing the symbol or bit error probability to one or more predetermined thresholds to select a

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communication protocol of the communication channel" and analogous limitations to independent claims 13 and 20, may render claims 1, 13, and 20 allowable over the art of record;

- d. the Examiner plans to perform additional searching and possibly reconsider the art of record.

The time and courtesy afforded applicants' attorney, agent, and member of technical staff of applicants' attorney as well as the positive discussion and above-listed agreements reached, are gratefully acknowledged by applicants.

Claim Objections:

Claims 1-12 were objected to because of alleged informalities. Claim 1 has been amended to recite "comprising steps of" rather than "comprising the steps of." Claim 3 has been amended to recite "comprising a step of deriving an error rate estimate" rather than "comprising the step of deriving an error rate estimate," as graciously suggested in the Office Action. Claim 5 has been amended to recite "a step of deriving the soft decision metric" rather than "the step of deriving the soft decision metric," as graciously suggested in the Office Action. Claim 8 has been amended to recite "further comprising a step of employing the symbol or bit error probability to select" rather than "further comprising the step of employing the symbol or bit error probability to select." Claim 11 has been amended to recite "comprises a step of selecting" rather than "comprises the step of selecting." Claim 12 has been amended to recite "comprises a step of comparing the symbol error probability to one or more predetermined thresholds" rather than "comprises the step of comparing the symbol error probability to one or more predetermined thresholds."

Withdrawal of the objection to claims 1-12 is therefore respectfully requested.

Claim Rejections - 35 U.S.C. §112, first paragraph:

Claims 15 and 16 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Office Action alleges that the term "selector circuit" is not taught in the specification. This rejection is respectfully, but most strenuously, traversed.

Claim 15 has been amended to recite the transmitter or the receiver changes a communications protocol in response to the error rate estimate. Claim 16 has been amended to recite the transmitter or the receiver changes one or more of a modulation and coding scheme in response to the error rate estimate.

Claims 18 and 19 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Office Action alleges that the term "a variant" is not taught in the specification. This rejection is respectfully, but most strenuously, traversed.

Claim 18 has been amended to recite the decision device performs demodulation through employment of a Viterbi decoder algorithm or a variant of the Viterbi decoder algorithm. Claim 19 has been amended to recite the decision device performs equalization through employment of one or more of a Bahl-Cocke-Jelinek-Raviv algorithm and a soft output Viterbi algorithm, or variants of the one or more of the Bahl-Cocke-Jelinek-Raviv algorithm and the soft output Viterbi algorithm.

Claim 20 is rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Office Action alleges that the term "article" is not taught in the specification. Exemplary issued claims were discussed with the examiner in the Interview on February 18, 2004 that show use of the term "article," for example, representative article claims of U.S. Patent Nos. 6,345,382, 6,460,160, and 6,557,135. The exemplary issued claims are

analogous in format to applicants' claim 20. This rejection is respectfully, but most strenuously, traversed.

Withdrawal of the §112, first paragraph rejection is therefore respectfully requested.

Claim Rejection - 35 U.S.C. §112, second paragraph:

Claim 9 is rejected under 35 U.S.C. §112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The Office Action alleges that the phrase "at the transmitter" is indefinite because there is insufficient antecedent basis for "the transmitter." Claim 9 has been amended to replace the cited text with "at a transmitter."

Withdrawal of the §112, second paragraph rejection is therefore respectfully requested.

Claim Rejections - 35 U.S.C. §§102 and 103:

Claims 1-5, 7-15, and 17-20 are rejected under 35 U.S.C. §102(e) as being anticipated by Servais, et al. (U.S. Patent No. 6,141,388; "Servais"). Claim 6 is rejected under U.S.C. §103(a) as being unpatentable over Servais in view of Khayrallah, et al. (U.S. Patent No. 6,597,743; "Khayrallah"). Claim 16 is rejected under U.S.C. §103(a) as being unpatentable over Servais in view of Trompower, et al. (U.S. Patent No. 5,950,124; "Trompower"). These rejections are respectfully, but most strenuously, traversed.

It is well-settled that there is no anticipation unless (1) all the same elements are (2) found in exactly the same situation and (3) are united in the same way to (4) perform the identical function. Since each of the applied references is missing at least one element of each of applicants' independent claims, applicants respectfully submit that the claimed invention is not anticipated by either of the applied references, as further discussed below.

Applicants respectfully submit that the applied references, with or without combination, assuming, *arguendo*, that the combination of the applied references is proper, do not teach or suggest one or more elements of the claimed invention, as further discussed below.

For explanatory purposes, applicants discuss herein one or more differences between the applied references and the claimed invention with reference to one or more parts of the applied references. This discussion, however, is in no way meant to acquiesce in any characterization that one or more parts of the applied references correspond to the claimed invention.

Applicants respectfully submit that the applied references do not teach or suggest one or more elements of the claimed invention. A careful reading of the applied references fails to teach or suggest, for example, comparing the symbol or bit error probability to one or more predetermined thresholds to select a communication protocol of the communication channel, as discussed during the Interview on February 18, 2004.

Servais (column 3, lines 56-58 and column 4, lines 40-48) discloses employing bit error rate to determine a communication channel.

The sum of the decision variables in the correct path is averaged over a measurement period and compared to set threshold values to determine the bit error rate.

In another embodiment of the present invention, the bit error rate estimate is provided to a control node associated with the communication channel. The control node determines whether a different communication channel should be used for a subsequently transmitted data frame based on the bit error rate estimate. Alternatively, the control node may take other corrective actions such as controlling its transmitter to adjust the power of the transmitted signal or adjusting the strength of a Forward Error Correction (FEC).

Servais discloses comparing averaged decision variables to threshold values to determine a bit rate error. Servais also discloses employing the bit error rate to determine whether a different communication channel should be used. Servais does not disclose comparing the bit

rate error to set threshold values to select the different communication protocols. Simply missing from Servais is any mention of comparing the symbol or bit error probability to one or more predetermined thresholds to select a communication protocol of the communication channel.

So, Servais fails to satisfy at least one of applicants' claim limitations.

The shortcomings of Servais relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of Servais with Khayrallah. However, Khayrallah does not overcome the deficiency of Servais. Applicants respectfully submit that the proposed combination of Servais with Khayrallah fails to provide the required approach, assuming, *arguendo*, that the combination of Servais with Khayrallah is proper.

Khayrallah (Col. 4, lines 56-67) discloses correcting errors in channels:

The channel encoder 18 is designed to introduce an element of redundancy into the information sequence, X, which is supplied by the source encoder 16 to generate a coded output, Y. While initially appearing at odds with the function of the source encoder 16 previously discussed, in reality the redundancy added by the channel coder 18 serves to enhance the error correction capability of the communication system. By introducing redundant information into the information sequence in a controlled manner, a receiver having knowledge of the code used can detect and possibly correct errors which may occur during transmission by making use of the redundant information.

Khayrallah discloses determining and possibly correcting errors which may occur during transmission of information through a communication system. Simply missing from Khayrallah is any mention of comparing the symbol or bit error probability to one or more predetermined thresholds to select a communication protocol of the communication channel.

So, Khayrallah fails to satisfy at least one of applicants' claim limitations.

The shortcomings of Servais relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of Servais with Trompower.

However, Trompower does not overcome the deficiency of Servais. Applicants respectfully submit that the proposed combination of Servais and Trompower fails to provide the required approach, assuming, *arguendo*, that the combination of Servais with Trompower is proper.

Trompower (Col. 5, lines 40-52) discloses determining a PN code length and the chipping rate:

Each base station can transmit and receive data in its respective cell. For a given communication between a mobile terminal and a base station, the mobile terminal and the base station can adjust the PN code length and the chipping rate depending on communication conditions to increase the transmission rate while retaining an acceptable error rate. Moreover, the system also provides that system components can adjust between other cellular communication system transmission parameters such as between different modulation schemes and/or different transmitter power levels in conjunction with PN code adjustments to further enhance the performance capabilities of the system.

Trompower discloses adjusting cellular communication system transmission parameters to retain an acceptable error rate. Simply missing from Trompower is any mention of comparing the symbol or bit error probability to one or more predetermined thresholds to select a communication protocol of the communication channel.

So, Trompower fails to satisfy at least one of applicants' claim limitations.

Servais, Khayrallah, and Trompower fail to meet at least one of applicants' claimed features. For example, there is no teaching or suggestion in Servais, Khayrallah, or Trompower of comparing the symbol or bit error probability to one or more predetermined thresholds to select a communication protocol of the communication channel.

Furthermore, the Office Action does not allege that the art of record provides any teaching, suggestion, or incentive for modifying Servais, Khayrallah, and/or Trompower to provide the claimed configuration. Applicants respectfully submit that these documents fail to

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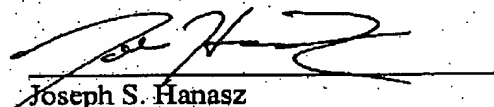
provide the express teaching, suggestion, or incentive, and the claimed invention is thus patentable over the art of record.

For all the above reasons, the independent claims presented herewith are believed neither anticipated nor obvious over the art of the record. The dependent claims are believed allowable for the same reasons as the independent claims, as well as for their own additional characterizations.

Withdrawal of the §§102 and 103 rejections are therefore respectfully requested.

In view of the above amendments and remarks, allowance of all claims pending is respectfully requested. If a telephone conference would be of assistance in advancing the prosecution of this application, the Examiner is invited to call applicants' attorney Robert J. Brill, Reg. No. 36,760, and applicants' undersigned agent.

Respectfully submitted,



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